

What is claimed is:

1. A microplasmin polypeptide comprising a heterologous loop domain sequence,
5 wherein said polypeptide is resistant to α 2-antiplasmin inhibition compared to a wild type
microplasmin.

2. The polypeptide of claim 1, wherein said heterologous loop domain comprises at
least 4 consecutive amino acids of a factor D loop domain.

10 3. The polypeptide of claim 1, wherein said heterologous loop domain comprises at
least 10 consecutive amino acids of a factor D loop domain.

15 4. The polypeptide of claim 1, wherein said polypeptide comprises a heterologous
loop domain sequence in microplasmin loop 3.

5. The polypeptide of claim 1, wherein said polypeptide comprises amino acid
sequence LNGA (SEQ ID NO:1) in microplasmin loop 3.

20 6. The polypeptide of claim 1, wherein said polypeptide comprises a heterologous
loop domain sequence in microplasmin loop 5.

25 7. The polypeptide of claim 1, wherein said polypeptide comprises amino acid
sequence AHCLEDAADGKV (SEQ ID NO:2) in microplasmin loop 5.

8. The polypeptide of claim 1, wherein said polypeptide comprises a heterologous
loop domain sequence in microplasmin loop 6.

30 9. The polypeptide of claim 1, wherein said polypeptide comprises amino acid
sequence AHSLSQPEPSK (SEQ ID NO:3) in microplasmin loop 6.

10. The polypeptide of claim 1, wherein said polypeptide comprises a heterologous loop domain sequence in microplasmin loop 7.

11. The polypeptide of claim 1, wherein said polypeptide comprises amino acid
5 sequence HPDSQPDTIDHD (SEQ ID NO:4) in microplasmin loop 7.

12. A method of dissolving a blood clot, comprising contacting said blood clot with the polypeptide of claim 1.

10 13. A substantially pure fragment of plasminogen, wherein said fragment is activated at least 10% more efficiently compared to human glu-plasminogen.

14. The fragment of claim 13, wherein said fragment comprises at least 150 consecutive residues of SEQ ID NO:17.

15 15. The fragment of claim 13, wherein said fragment comprises a methionine residue at the N-terminal end.

16 16. A substantially pure polypeptide comprising residues 550-810 of SEQ ID NO:17,
20 wherein residue 555 is not a cysteine residue.

17. A substantially pure polypeptide comprising residues 550-810 of SEQ ID NO:17, wherein residue 560 is not a cysteine residue.

25 18. A substantially pure polypeptide comprising residues 550-810 of SEQ ID NO:17, wherein residue 580 is not an arginine residue.

19. A substantially pure polypeptide comprising residues 481-810 of SEQ ID NO:17, wherein residue 555 is not a cysteine residue or wherein residue 560 is not a cysteine residue.

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20. A substantially pure polypeptide comprising residues 481-810 of SEQ ID NO:17, wherein residue 580 is not an arginine residue.